U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 USC 371 AND 37 CFR 1.491

ATTORNEY DOCKET NO.: 215849

U.S. APPLICATION NO.: 10/069650

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/GB00/02975	2 August 2000	27 August 1999

TITLE OF INVENTION
SEALING AND GUIDING STRIP FOR A WINDOW

APPLICANT(S) FOR DO/EO/US
MAASS, Klaus P.

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 USC 371 and 37 CFR 1.491.

2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 USC 371 and 37 CFR 1.491.

3. ☐ This is an express request to begin national examination procedures (35 USC 371(f)).

4. ☐ The US has been elected by the expiration of 19 months from the priority date (PCT Article 31).

5. ☒ A copy of the International Application as filed (35 USC 371(c)(2))
   a. ☐ is attached hereto (required only if not communicated by the International Bureau).
   b. ☒ has been communicated by the International Bureau.
   c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).

6. ☐ An English language translation of the International Application as filed (35 USC 371(c)(2)).

7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 USC 371(c)(3))
   a. ☐ are attached hereto (required only if not communicated by the International Bureau).
   b. ☐ have been communicated by the International Bureau.
   c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
   d. ☒ have not been made and will not be made.

8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 USC 371(c)(3)).

9. ☐ An oath or declaration of the inventor(s) (35 USC 371(c)(4)).

10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 USC 371(c)(5)).

11. Nucleotide and/or Amino Acid Sequence Submission
   a. ☐ Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. ☐ CD-ROM or CD-R (2 copies); or
      ii. ☐ Paper Copy
   c. ☐ Statement verifying identity of above copies

Items 12 to 19 below concern other document(s) or information included:

12. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
   ☐ Form PTO-1449
   ☐ Copies of Listed Documents

13. ☐ An assignment for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.

14. ☒ A FIRST preliminary amendment.
   ☐ A SECOND or SUBSEQUENT preliminary amendment.

15. ☐ A substitute specification.

16. ☐ A change of power of attorney and/or address letter.

17. ☒ Application Data Sheet Under 37 CFR 1.76

18. ☒ Return Receipt Postcard

19. ☐ Other items or information:

U.S. APPLICATION NO. 10/069650	INTERNATIONAL APPLICATION NO. PCT/GB00/02975	ATTORNEY DOCKET NO. 215849

20. ☒ The following fees are submitted:	CALCULATIONS	PTO USE ONLY
Basic National Fee (37 CFR 1.492(a)(1)-(5)):		
Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO $1,040.00		
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO ..... $ 890.00		
International preliminary examination fee (37 CFR 1.482) not paid to USPTO, but international search fee (37 CFR 1.445(a)(2))paid to USPTO ..... $ 740.00		
International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4)..... $ 710.00		
International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1) to (4) ..... $ 100.00		
ENTER APPROPRIATE BASIC FEE AMOUNT=	$1,040.00	
Surcharge of $130.00 for furnishing the National fee or oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date	$	

CLAIMS	NUMBER FILED		NUMBER EXTRA	RATE		
Total Claims	14	-20=	0	x $ 18.00	$0.00	
Independent Claims	2	- 3 =	0	x $ 84.00	$0.00	
☐ Multiple Dependent Claim(s) (if applicable)				+$280.00	$0.00	
				TOTAL OF ABOVE CALCULATIONS=	$1,040.00	
☐ Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.					$	
				SUBTOTAL=	$1,040.00	
Processing fee of **$130.00** for furnishing English Translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date.					$	
				TOTAL NATIONAL FEE=	$1,040.00	
Fee for recording the enclosed assignment. The assignment must be accompanied by an appropriate cover sheet. **$40.00** per property +					$	
				TOTAL FEE ENCLOSED=	$1,040.00	
				Amount to be: refunded	$	
				charged:	$	

a. ☒ A check in the amount of $1,040.00 to cover the above fee is enclosed.

b. ☐ Please charge Deposit Account No. 12-1216 in the amount of $ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 12-1216. A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

Customer Number: 23460

23460

PATENT TRADEMARK OFFICE

Gordon R. Coons, Registration No. 20821
One of the Attorneys for Applicant(s)

Date: February 26, 2002

U.S. APPLICATION NO.	INTERNATIONAL APPLICATION NO.	ATTORNEY DOCKET NO.
10/069650	PCT/GB00/02975	215849

CERTIFICATION UNDER 37 CFR 1.10

"Express Mail" Label Number: EL841017855

Date of Deposit: February 26, 2002

I hereby certify that this express request to begin national examination procedures under 35 USC 371(f) of the International Patent Application referenced above, including all of the items listed thereon as enclosures, is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" Service under 37 CFR 1.10 on the date indicated above and is addressed to Box PCT, Commissioner for Patents, Attention: DO/EO/US, Washington, D.C. 20231.

CAROL A. GRAVES — Printed Name of Person Signing:

Carol A. Graves — Signature

PATENT
Attorney Docket No. 215849

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Klaus P. MAASS

Art Unit: Unassigned

Corres. to International
Application No. PCT/GB00/02975

Examiner: Unassigned

Filed: Concurrently

For: SEALING AND GUIDING STRIP FOR A WINDOW

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Prior to the examination of the above-identified patent application, please enter the following amendments and consider the following remarks.

AMENDMENTS

IN THE CLAIMS:

Please replace claims 1-14 with the following:

1. (Amended) A window sealing and guiding channel for a window opening having a sharp corner, comprising a channel base and first and second integral channel side walls made of flexible material, each side wall having a lip extending along its distal edge, the lip on the first side wall being separated from that side wall over a region extending along a portion of the channel including the sharp corner, the separated lip smoothly bridging across the sharp corner, the lip on the second side wall being separated from that side wall at the corner and mitre-cut there to form a mitre joint matching the sharp angle, an insert being secured between the separated lip of the first

side wall and the remainder of that side wall over the said region, in which the channel further comprises a third wall extending from the channel base adjacent the first side wall and made of flexible material, the third wall having a lip extending along its distal edge which is separated from that side wall at the corner and which follows a smooth curve between the mitre joint of the second side wall lip and the curve of the first side wall lip and which thereby substantially overlies the said insert.

2. (Amended) A channel according to claim 1, in which the base and at least parts of the walls are removed at the sharp corner and replaced by corresponding parts of the said insert, the corresponding parts being secured in position in the channel.

3. (Amended) A channel according to claim 1, in which the lip of the said first side wall is separated from that side wall not only over the said region but also to an end of the channel, the separated lip being re-secured to the first side wall outside the said region.

4. (Amended) A channel according to claim 1, in which the lip of the third wall not only over the said region but also to an end of the channel, the separated lip being re-secured to the third wall outside the said region.

5. (Amended) A channel according to claim 1, in which the insert is a moulded insert.

6. (Amended) A channel according to claim 1, in which the insert is secured using an adhesive material.

7. (Amended) A channel according to claim 1, in which the insert is secured by being moulded onto the channel base and walls.

8. (Amended) A channel according to claim 1, in which the channel base, side walls and lips are produced by extrusion.

9. (Amended) A window sealing and guiding channel for sealing and guiding a window glass having a sharp corner, the channel having a base and integral first and second channel walls each having a distal edge carrying a respective lip, the first wall being cut through to separate its distal edge portion including the lip from the remainder of the wall, the cut extending along the length of the each wall from a first position on one side of the sharp corner, and through the sharp corner, the second wall being cut through at the sharp corner to separate a distal edge portion thereof including the respective lip from the remainder of that wall, the distal edge portion of the second wall being itself cut through at the sharp corner to form a mitred joint therein matching the sharp corner, the distal edge portion of the first wall being formed into a smooth curve bridging across the sharp corner, an insert being secured in position between and spacing apart the distal edge portion of the first wall and the said remainder thereof, the insert having a size which from the said first position to the sharp corner progressively increases the spacing between the distal edge portion of the first wall and the remainder thereof and

thereafter progressively decreases that spacing to zero at a second position on the opposite side of the sharp corner to the first position, in which the channel has a third channel wall having a distal edge carrying a respective lip, the third wall being adjacent the first side wall and being cut through to separate its distal edge portion including the lip from the remainder of the wall, the cut extending along the length of the wall from the first position and through the sharp corner, the distal edge portion of the third wall being formed into a smooth curve bridging across the sharp corner between the smooth curve of the distal edge portion of the first wall and the mitred joint of the distal edge portion of the second wall and overlying the insert, the remainder of the first, second and third walls and the base of the channel being removed at the sharp corner and replaced by a moulded channel part integrally moulded with the insert.

10. (Amended) A channel according to claim 9, in which the insert is previously produced by a moulding operation.

11. (Amended) A channel according to claim 9, in which the respective lips of the first and third walls partially bridge across the mouth of the channel for contacting and sealing against opposite sides of the window glass.

12. (Amended) A channel according to claim 1, including a lip within the channel and inclinedly extending from the base thereof for engaging an edge of the window glass.

13. (Amended) A channel according to claim 1, in which the window glass is a slidable window glass in a motor vehicle.

14. (Amended) A channel according to claim 13, in which is mounted in a rigid frame carried by the door of the motor vehicle.

In re Appln. of Maass
Corres. to Int'l Application No. PCT/GB00/02975

REMARKS

Claims 1-14 are currently pending the present application. Claims 1-14 have been amended to remove the reference numbers. Claims 3-8 and 11-13 also have been amended to remove the multiple dependency of those claims. No new matter has been made by way of these amendment.

If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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Date: February 26, 2002

PATENT
Attorney Docket No. 215849

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Klaus P. MAAS

Art Unit: Unassigned

Corres. to International
Application No. PCT/GB00/02975

Examiner: Unassigned

Filed: Concurrently

For: SEALING AND GUIDING STRIP FOR A WINDOW

AMENDMENTS TO THE CLAIMS
MADE VIA PRELIMINARY AMENDMENT

Please amend claims 1-14 as follows:

1. (Amended) A window sealing and guiding channel for a window opening having a sharp corner, comprising a channel base [(22)] and first and second integral channel side walls [(24,26)] made of flexible material, each side wall [(24,26)] having a lip [(28,30)] extending along its distal edge, the lip [(28)] on the first side wall [(24)] being separated from that side wall [(24)] over a region extending along a portion of the channel including the sharp corner, the separated lip smoothly bridging across the sharp corner, the lip [(30)] on the second side wall [(26)] being separated from that side wall at the corner and mitre-cut there to form a mitre joint matching the sharp angle, an insert [(47,48)] being secured between the separated lip [(28)] of the first side wall [(24)] and the remainder of that side wall [(24)] over the said region, [characterised in that] <u>in which</u> the channel further comprises a third wall [(25)] extending from the channel base [(22)] adjacent the first side wall [(24)] and made of flexible material, the third wall [(25)] having a lip [(29)] extending along its distal edge which is separated from that side wall

[(25)] at the corner and which follows a smooth curve between the mitre joint of the second side wall lip [(26)] and the curve of the first side wall lip [(28)] and which thereby substantially overlies the said insert.

2. (Amended) A channel according to claim 1, [characterised in that] in which the base [(22)] and at least parts of the walls [(24,26,26)] are removed at the sharp corner and replaced by corresponding parts of the said insert [(47,48)], the corresponding parts being secured in position in the channel.

3. (Amended) A channel according to claim 1 [or 2, characterised in that], in which the lip [(28)] of the said first side wall [(24)] is separated from that side wall [(24)] not only over the said region but also to an end of the channel, the separated lip [(28)] being re-secured to the first side wall [(24)] outside the said region.

4. (Amended) A channel according to [any preceding] claim 1, [characterised in that] in which the lip [(29)] of the third wall [(25)] not only over the said region but also to an end of the channel, the separated lip [(29)] being re-secured to the third wall [(25)] outside the said region.

5. (Amended) A channel according to [any preceding] claim 1, [characterised in that] in which the insert [(47)] is a moulded insert.

6. (Amended) A channel according to [any preceding] claim 1, [characterised in that] in which the insert [(47)] is secured using an adhesive material.

7. (Amended) A channel according to [any of claims] claim 1 [to 5], [characterised in that] in which the insert [(47)] is secured by being moulded onto the channel base [(22)] and walls [(24,25,26)].

8. (Amended) A channel according to [any preceding] claim 1, [characterised in that] in which the channel base [(22)], side walls [(24,25,26)] and lips [(28,29,30)] are produced by extrusion.

9. (Amended) A window sealing and guiding channel for sealing and guiding a window glass having a sharp corner, the channel having a base [(22)] and integral first [(24)] and second [(26)] channel walls each having a distal edge carrying a respective lip [(28,30)], the first wall [(24)] being cut through to separate its distal edge portion including the lip [(28)] from the remainder of the wall [(24)], the cut extending along the length of the each wall [(24)] from a first position on one side of the sharp corner, and through the sharp corner, the second wall [(26)] being cut through at the sharp corner to separate a distal edge portion thereof including the respective lip [(30)] from the remainder of that wall [(26)], the distal edge portion of the second wall [(26)] being itself cut through at the sharp corner to form a mitred joint therein matching the sharp corner, the distal edge portion of the first wall [(24]) being formed into a smooth curve bridging across the sharp corner, an insert [(47,48)] being secured in position between and spacing

apart the distal edge portion of the first wall [(24)] and the said remainder thereof, the insert [(47,48)] having a size which from the said first position to the sharp corner progressively increases the spacing between the distal edge portion of the first wall [(24)] and the remainder thereof and thereafter progressively decreases that spacing to zero at a second position on the opposite side of the sharp corner to the first position, [characterised in that] in which the channel has a third channel wall [(25)] having a distal edge carrying a respective lip [(29)], the third wall [(25)] being adjacent the first side wall [(24)] and being cut through to separate its distal edge portion including the lip [(29)] from the remainder of the wall, the cut extending along the length of the wall [(25)] from the first position and through the sharp corner, the distal edge portion of the third wall [(25)] being formed into a smooth curve bridging across the sharp corner between the smooth curve of the distal edge portion of the first wall [(24)] and the mitred joint of the distal edge portion of the second wall [(26)] and overlying the insert [(47,48)], the remainder of the first, second and third walls [(24,26,25)] and the base [(22)] of the channel being removed at the sharp corner and replaced by a moulded channel part [(50)] integrally moulded with the insert [(47,48)].

10. (Amended) A channel according to claim 9, [characterised in that] in which the insert [(47,48)] is previously produced by a moulding operation.

11. (Amended) A channel according to claim 9 [or 10], [characterised in that] in which the respective lips [(28,29)] of the first and third walls [(24,25)] partially

bridge across the mouth of the channel for contacting and sealing against opposite sides of the window glass.

12. (Amended) A channel according to [any preceding] claim 1, [characterised by] including a lip [(44)] within the channel and inclinedly extending from the base [(22)] thereof for engaging an edge of the window glass.

13. (Amended) A channel according to [any preceding] claim 1, [characterised in that] in which the window glass is a slidable window glass in a motor vehicle.

14. (Amended) A channel according to claim 13, [characterised in that it] in which is mounted in a rigid frame [(12,20)] carried by the door of the motor vehicle.

PATENT
Attorney Docket No. 215849

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Klaus P. MAAS

Art Unit: Unassigned

Corres. to International
Application No. PCT/GB00/02975

Examiner: Unassigned

Filed: Concurrently

For: SEALING AND GUIDING STRIP FOR A WINDOW

PENDING CLAIMS AFTER ENTRY OF PRELIMINARY AMENDMENT

1. A window sealing and guiding channel for a window opening having a sharp corner, comprising a channel base and first and second integral channel side walls made of flexible material, each side wall having a lip extending along its distal edge, the lip on the first side wall being separated from that side wall over a region extending along a portion of the channel including the sharp corner, the separated lip smoothly bridging across the sharp corner, the lip on the second side wall being separated from that side wall at the corner and mitre-cut there to form a mitre joint matching the sharp angle, an insert being secured between the separated lip of the first side wall and the remainder of that side wall over the said region, in which the channel further comprises a third wall extending from the channel base adjacent the first side wall and made of flexible material, the third wall having a lip extending along its distal edge which is separated from that side wall at the corner and which follows a smooth curve between the mitre joint of the second side wall lip and the curve of the first side wall lip and which thereby substantially overlies the said insert.

2. A channel according to claim 1, in which the base and at least parts of the walls are removed at the sharp corner and replaced by corresponding parts of the said insert, the corresponding parts being secured in position in the channel.

3. A channel according to claim 1, in which the lip of the said first side wall is separated from that side wall not only over the said region but also to an end of the channel, the separated lip being re-secured to the first side wall outside the said region.

4. A channel according to claim 1, in which the lip of the third wall not only over the said region but also to an end of the channel, the separated lip being re-secured to the third wall outside the said region.

5. A channel according to claim 1, in which the insert is a moulded insert.

6. A channel according to claim 1, in which the insert is secured using an adhesive material.

7. A channel according to claim 1, in which the insert is secured by being moulded onto the channel base and walls.

8. A channel according to claim 1, in which the channel base, side walls and lips are produced by extrusion.

9. A window sealing and guiding channel for sealing and guiding a window glass having a sharp corner, the channel having a base and integral first and second channel walls each having a distal edge carrying a respective lip, the first wall being cut through to separate its distal edge portion including the lip from the remainder of the wall, the cut extending along the length of the each wall from a first position on one side of the sharp corner, and through the sharp corner, the second wall being cut through at the sharp corner to separate a distal edge portion thereof including the respective lip from the remainder of that wall, the distal edge portion of the second wall being itself cut through at the sharp corner to form a mitred joint therein matching the sharp corner, the distal edge portion of the first wall being formed into a smooth curve bridging across the sharp corner, an insert being secured in position between and spacing apart the distal edge portion of the first wall and the said remainder thereof, the insert having a size which from the said first position to the sharp corner progressively increases the spacing between the distal edge portion of the first wall and the remainder thereof and thereafter progressively decreases that spacing to zero at a second position on the opposite side of the sharp corner to the first position, in which the channel has a third channel wall having a distal edge carrying a respective lip, the third wall being adjacent the first side wall and being cut through to separate its distal edge portion including the lip from the remainder of the wall, the cut extending along the length of the wall from the first position and through the sharp corner, the distal edge portion of the third wall being formed into a smooth curve bridging across the sharp corner between the smooth curve of the distal edge portion of the first wall and the mitred joint of the distal edge portion of the second wall and overlying the insert, the remainder of the first, second and third walls and the

base of the channel being removed at the sharp corner and replaced by a moulded channel part integrally moulded with the insert.

10. A channel according to claim 9, in which the insert is previously produced by a moulding operation.

11. A channel according to claim 9, in which the respective lips of the first and third walls partially bridge across the mouth of the channel for contacting and sealing against opposite sides of the window glass.

12. A channel according to claim 1, including a lip within the channel and inclininglyextending from the base thereof for engaging an edge of the window glass.

13. A channel according to claim 1, in which the window glass is a slidable window glass in a motor vehicle.

14. A channel according to claim 13, in which is mounted in a rigid frame carried by the door of the motor vehicle.

SEALING AND GUIDING STRIP FOR A WINDOW

The invention relates to a window sealing and guiding channel for a window opening having a sharp corner, comprising a channel base and first and second integral channel side walls made of flexible material, each side wall having a lip extending along its distal edge, the lip on the first side wall being separated from that side wall over a region extending along a portion of the channel including the sharp corner, the separated lip smoothly bridging across the sharp corner, the lip on the second side wall being separated from that side wall at the corner and mitre-cut there to form a mitre joint matching the sharp angle, an insert being secured between the separated lip of the first side wall and the remainder of that side wall over the said region.

The invention also relates to a window sealing and guiding channel for sealing and guiding a window glass having a sharp corner, the channel having a base and integral first and second channel walls each having a distal edge carrying a respective lip, the first wall being cut through to separate its distal edge portion including the lip from the remainder of the wall, the cut extending along the length of the each wall from a first position on one side of the sharp corner, and through the sharp corner, the second wall being cut through at the sharp corner to separate a distal edge portion thereof including the respective lip from the remainder of that wall, the distal edge portion of the second wall being itself cut through at the sharp corner to form a mitred joint therein matching the sharp corner, the distal edge portion of the first wall being

formed into a smooth curve bridging across the sharp corner, an insert being secured in position between and spacing apart the distal edge portion of the first wall and the said remainder thereof, the insert having a size which from the said first position to the sharp corner progressively increases the spacing between the distal edge portion of the first wall and the remainder thereof and thereafter progressively decreases that spacing to zero at a second position on the opposite side of the sharp corner to the first position.

Such channels are shown for example in GB-A-2 311 799. However, the insert, which may be separately manufactured, may present a slightly different appearance as compared with the channel walls.

According to the invention, therefore, the channel as first set forth above is characterised in that the channel further comprises a third wall extending from the channel base adjacent the first side wall and made of flexible material, the third wall having a lip extending along its distal edge which is separated from that side wall at the corner and which follows a smooth curve between the mitre joint of the second side wall lip and the curve of the first side wall lip and which thereby substantially overlies the said insert.

Also according to the invention, the channel as secondly set forth above is characterised in that the channel has a third channel wall having a distal edge carrying

a respective lip, the third wall being adjacent the first side wall and being cut through to separate its distal edge portion including the lip from the remainder of the wall, the cut extending along the length of the wall from the first position and through the sharp corner, the distal edge portion of the third wall being formed into a smooth curve bridging across the sharp corner between the smooth curve of the distal edge portion of the first wall and the mitred joint of the distal edge portion of the second wall and overlying the insert, the remainder of the first, second and third walls and the base of the channel being removed at the sharp corner and replaced by a moulded channel part integrally moulded with the insert.

Sealing and guiding strips for windows in motor vehicle bodies, and embodying the invention, will now be described, by way of example only, with reference to the accompanying diagrammatic drawings in which:

Figure 1 is a side view of a vehicle door;

Figure 2 is an enlarged view of the area II of Figure 1, showing one of the sealing and guiding strips;

Figure 3 is a section on the line III-III of Figure 2;

Figure 4 is a section on the line IV-IV of Figure 2;

Figure 5 is a perspective view of the window frame and sealing strip and corresponding to Figure 2; and

Figure 6 is a perspective view of a moulded insert used in the strip.

Figure 1 shows a vehicle door 10 carrying a window frame 12. A pane of window glass 14 is slidable in a vertical direction in the window frame 12 and can be raised from and lowered into the lower part of the door 10. The window frame 12 is produced from metal or other stiff material and is formed to produce a sharp corner 16.

In a manner to be explained in more detail below, the window frame 12 is of channel-shape in cross-section and supports a sealing and guiding strip 18 produced from flexible material such as plastics or rubber and in which the window glass 14 slides. The sealing and guiding channel 18 is designed to provide a weather-proof seal for the edge of the window glass and also to impose low friction on the movement of the glass.

Figures 2 and 5 show, to an enlarged scale, the window frame 12 and the sealing and guiding channel 18 in the region II of Figure 1. The window frame 12, which will be described in more detail with reference to Figures 3 and 4, defines a stiff mounting channel 20 (Fig. 5) in which is supported the sealing and guiding channel 18. The

channel 18 has a base 22 and side walls 24 and 26. Each of these side walls 24,26 terminates in a respective lip 28,30, the lips having portions 28A and 30A which overlap the respective distal edges of the side walls of the mounting channel 20.

A third wall 25 extends from the channel base 22 adjacent the side wall 24. The wall 25 has a lip 29 which has a portion 29A which abuts (but is not connected to) the lip 28 of the wall 24. The lips 29 and 30 also have a portions 29B and 30B which extend partway across the mouth of the sealing and guiding channel 18.

As shown most clearly in Figure 5, the longitudinal extension of the lip 30 matches the sharp corner 16 of the window frame 12. However, the longitudinal extension of the lip 28 is shaped differently and bridges across the sharp corner 16 in a smooth radius, as indicated over the region A in Figure 5. At the region A, the side wall 24 has to be extended, of course, as indicated at 24A. The smooth radius region A is positioned on the inside of the window glass 14.

Similarly, the longitudinal extension of the lip 29 bridges across the sharp corner 16 in a smooth radius. This is indicated over region B of Figure 5. It will be seen that the radius B is shorter than radius A and that the smooth curve of the lip 29 follows a path between the smooth curve of the lip 28 and the sharp corner of the lip 30.

The channel 18 is produced by an extrusion process from plastics or rubber.

Figure 3 shows a cross-section through the extruded channel 18 at the line III-III of Figure 2. Figure 3 also shows the window frame 12 in more detail.

As shown in Figure 3, the window frame 12 comprises channel-shaped metal producing the mounting channel 20, a frame member 36 supporting the channel 20, and an outer trim strip 38. The latter is bent to attach it to one of the walls of the mounting channel 20 and to one of the edges (not shown) of the outer frame member 36. The latter is bent over the opposite distal edge of the mounting channel 20.

The window channel 18 defines shoulders 40 and 42 on the outsides of the side walls 24,26 and positioned near the base 22 of the channel. These shoulders 40,42 engage indentations formed in the mounting channel 20 and thus locate the window channel 18 securely in position.

Figure 3 also shows that the window channel 18 includes a lip 44 at the base of the channel against which the edge of the window glass abuts when the window is fully closed. The outwardly facing surface of the lip 44 is covered with flock 46 to provide improved sealing and low friction. As the window glass enters the channel, the lip surfaces 28B and 29B are bent inwardly to allow passage of the window glass. The surfaces of the lip portions 28B and 29B which contact the glass are also covered with the flock 46.

The channel 18 is produced to have the cross-section shown in Figure 3 and a length equal to that from points S and X in Figure 1. However, after the extrusion process, a cut is made through the side wall 24 of the channel of the position indicated by the line 27 to sever the lip 28 from the remainder of the side wall. This cut starts at the point U in Figure 1 and continues to the point T on the other side of the corner. It will be appreciated that, although the start and end points of this cut are indicated on Figure 1, the cut is in fact made before the channel 18 is mounted on the frame. An insert 47 (Figure 6) is then placed in position as will now be described. This insert produces the required sharp corner in the channel walls 25 and 26 and the lip 30 and the required extended side wall 24A over the region A. The insert may be previously moulded and adhesively secured to the channel or may be moulded in situ after the extruded channel has been cut.

Figure 4 shows a section through the channel 18 at a position after the beginning U of the cut. As shown in Figure 4, the side wall 24 has been cut through and a moulded portion 48 of the insert 47 has been inserted. The moulded portion 48 provides the desired increase in the length of the side wall 24.

The moulded portion 48 smoothly increases in size towards the corner 16, thus progressively increasing the length of the side wall 24 as shown in Figure 6 and thereby producing the extended side wall portion 24A.

As shown in Figure 6, the moulded portion 48 merges with a channel-shaped moulded portion 50 which is also shown in Figure 4, being a cross-section at the corner 16. The side walls 25 and 26 and the lip 30 are cut away to accommodate the channel-shaped portion 50.

At the line C-C of Figure 2, the moulded insert 47 no longer exists, and the separated parts of the side wall 24 are simply secured together - and this is continued to the end T of the channel 18.

In this way, the sealing and guiding channel 18 can be given a sharp radius to match the sharp corner 16 of the frame on the outside of the window and a smooth radius on the inside of the window.

Also, by providing a third wall 25, the portion 48 of the insert 47 may be hidden from view by the lip 29 of the wall 25. This is shown most clearly in Figure 4 where it will be noted that the lip portion 29A is in contact with the side wall 24 approximately at the point where it is secured to the distal edge 49 of the moulded portion 48 of the insert 47. Thus the wall 25 completely hides the moulded portion 48 from view. This is advantageous because it means that the sheen and colour of the moulded insert 47 need not match that of the sealing and guiding strip 18.

It will be noted that the effect of the smooth radius for the lip 29 over the region A,

means that the lip 29 follows a shorter path than the lips 28 and 30; which follow the sharp corner 16. The excess length of the lip 29 is removed by making a cut at 52, removing the excess length and rejoining the ends. The cut 52 could be made at any point along the arc A.

CLAIMS

1. A window sealing and guiding channel for a window opening having a sharp corner, comprising a channel base (22) and first and second integral channel side walls (24,26) made of flexible material, each side wall (24,26) having a lip (28,30) extending along its distal edge, the lip (28) on the first side wall (24) being separated from that side wall (24) over a region extending along a portion of the channel including the sharp corner, the separated lip smoothly bridging across the sharp corner, the lip (30) on the second side wall (26) being separated from that side wall at the corner and mitre-cut there to form a mitre joint matching the sharp angle, an insert (47,48) being secured between the separated lip (28) of the first side wall (24) and the remainder of that side wall (24) over the said region, characterised in that the channel further comprises a third wall (25) extending from the channel base (22) adjacent the first side wall (24) and made of flexible material, the third wall (25) having a lip (29) extending along its distal edge which is separated from that side wall (25) at the corner and which follows a smooth curve between the mitre joint of the second side wall lip (26) and the curve of the first side wall lip (28) and which thereby substantially overlies the said insert.

2. A channel according to claim 1, characterised in that the base (22) and at least parts of the walls (24,25,26) are removed at the sharp corner and replaced by corresponding parts of the said insert (47,48), the corresponding parts being secured in position in the channel.

3. A channel according to claim 1 or 2, characterised in that the lip (28) of the said first side wall (24) is separated from that side wall (24) not only over the said region but also to an end of the channel, the separated lip (28) being re-secured to the first side wall (24) outside the said region.

4. A channel according to any preceding claim, characterised in that the lip (29) of the third wall (25) is separated from that wall (25) not only over the said region but also to an end of the channel, the separated lip (29) being re-secured to the third wall (25) outside the said region.

5. A channel according to any preceding claim, characterised in that the insert (47) is a moulded insert.

6. A channel according to any preceding claim, characterised in that the insert (47) is secured using an adhesive material.

7. A channel according to any of claims 1 to 5, characterised in that the insert (47) is secured by being moulded onto the channel base (22) and walls (24,25,26).

8. A channel according to any preceding claim characterised in that the channel base (22), side walls (24,25,26) and lips (28,29,30) are produced by extrusion.

9. A window sealing and guiding channel for sealing and guiding a window glass having a sharp corner, the channel having a base (22) and integral first (24) and second (26) channel walls each having a distal edge carrying a respective lip (28,30), the first wall (24) being cut through to separate its distal edge portion including the lip (28) from the remainder of the wall (24), the cut extending along the length of the each wall (24) from a first position on one side of the sharp corner, and through the sharp corner, the second wall (26) being cut through at the sharp corner to separate a distal edge portion thereof including the respective lip (30) from the remainder of that wall (26), the distal edge portion of the second wall (26) being itself cut through at the sharp corner to form a mitred joint therein matching the sharp corner, the distal edge portion of the first wall (24) being formed into a smooth curve bridging across the sharp corner, an insert (47,48) being secured in position between and spacing apart the distal edge portion of the first wall (24) and the said remainder thereof, the insert (47,48) having a size which from the said first position to the sharp corner progressively increases the spacing between the distal edge portion of the first wall (24) and the remainder thereof and thereafter progressively decreases that spacing to zero at a second position on the opposite side of the sharp corner to the first position, characterised in that the channel has a third channel wall (25) having a distal edge carrying a respective lip (29), the third wall (25) being adjacent the first side wall (24) and being cut through to separate its distal edge portion including the lip (29) from the remainder of the wall, the cut extending along the length of the wall (25) from the first position and through the sharp corner, the distal edge portion of the third wall (25)

being formed into a smooth curve bridging across the sharp corner between the smooth curve of the distal edge portion of the first wall (24) and the mitred joint of the distal edge portion of the second wall (26) and overlying the insert (47,48), the remainder of the first, second and third walls (24,26,25) and the base (22) of the channel being removed at the sharp corner and replaced by a moulded channel part (50) integrally moulded with the insert (47,48).

10. A channel according to claim 9, characterised in that the insert (47,48) is previously produced by a moulding operation.

11. A channel according to claim 9 or 10, characterised in that the respective lips (28,29) of the first and third walls (24,25) partially bridge across the mouth of the channel for contacting and sealing against opposite sides of the window glass.

12. A channel according to any preceding claim, characterised by a lip (44) within the channel and inclininglyextending from the base (22) thereof for engaging an edge of the window glass.

13. A channel according to any preceding claim, characterised in that the window glass is a slidable window glass in a motor vehicle.

14. A channel according to claim 13, characterised in that it is mounted in a rigid

frame (12,20) carried by the door of the motor vehicle.

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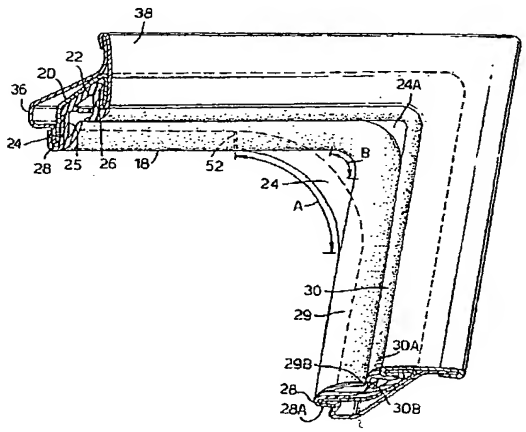
Published:
— *With international search report.*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SEALING AND GUIDING STRIP FOR A WINDOW



(57) Abstract: A window sealing and guiding channel (18) for a window frame (12) carried by a vehicle door is arranged to match the sharp angle at the corner (16) of the frame (12). A distal lip (28) of the wall of the channel (18) on the inside of the window is severed from the remainder of the channel side wall (24) from a point (U) on one side of the sharp corner (16), through the sharp corner (16) to the end of the channel, and this lip (28) is bent into a smooth curve (A) to bridge across the sharp corner. The lip (30) on the other channel side wall (26) is also severed from the remainder of its side wall at the sharp corner (16). In addition, the lip (30) of this side wall is cut through to form a mitred joint matching the angle at the sharp corner (16). The remainder of the channel (18) is removed at the sharp corner and replaced by a previously moulded insert having a channel-form at the sharp corner and an extended wall portion (24A) filling the gap where the inner lip (28) bridges across the corner. A third wall (25) has a lip (29) which bridges the sharp corner (16) in a smooth curve between the other lips (28) and (30) thereby hiding the moulded insert (47) from view.

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Fig.1.

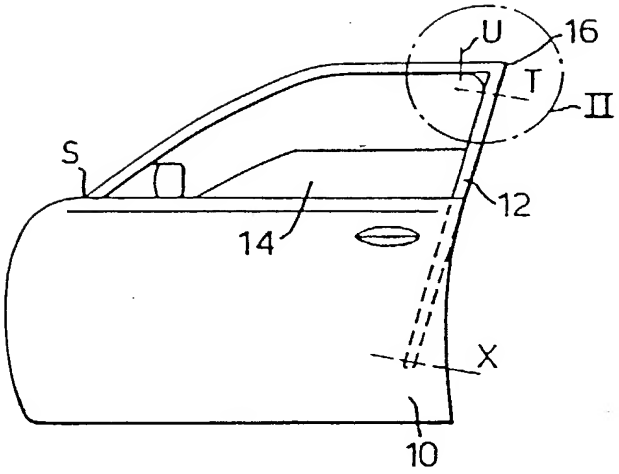

Fig.2.

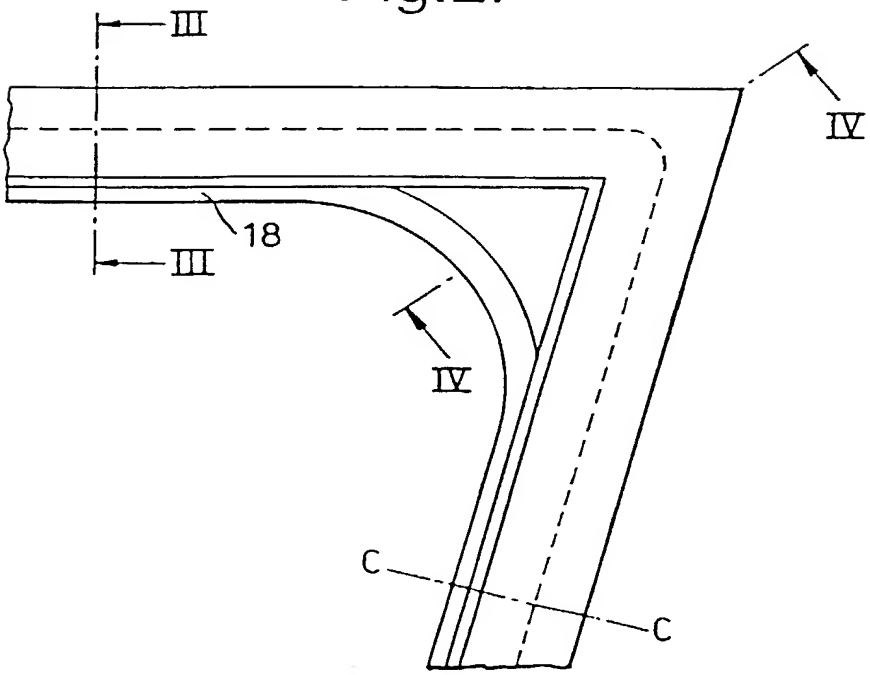

Fig.3.

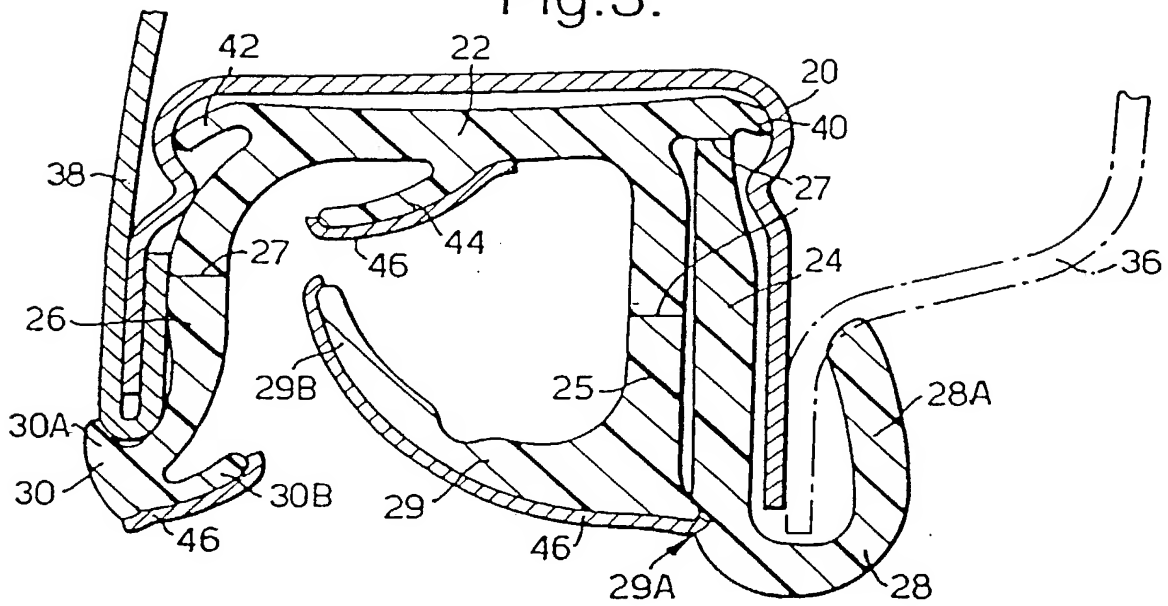
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Fig.4.

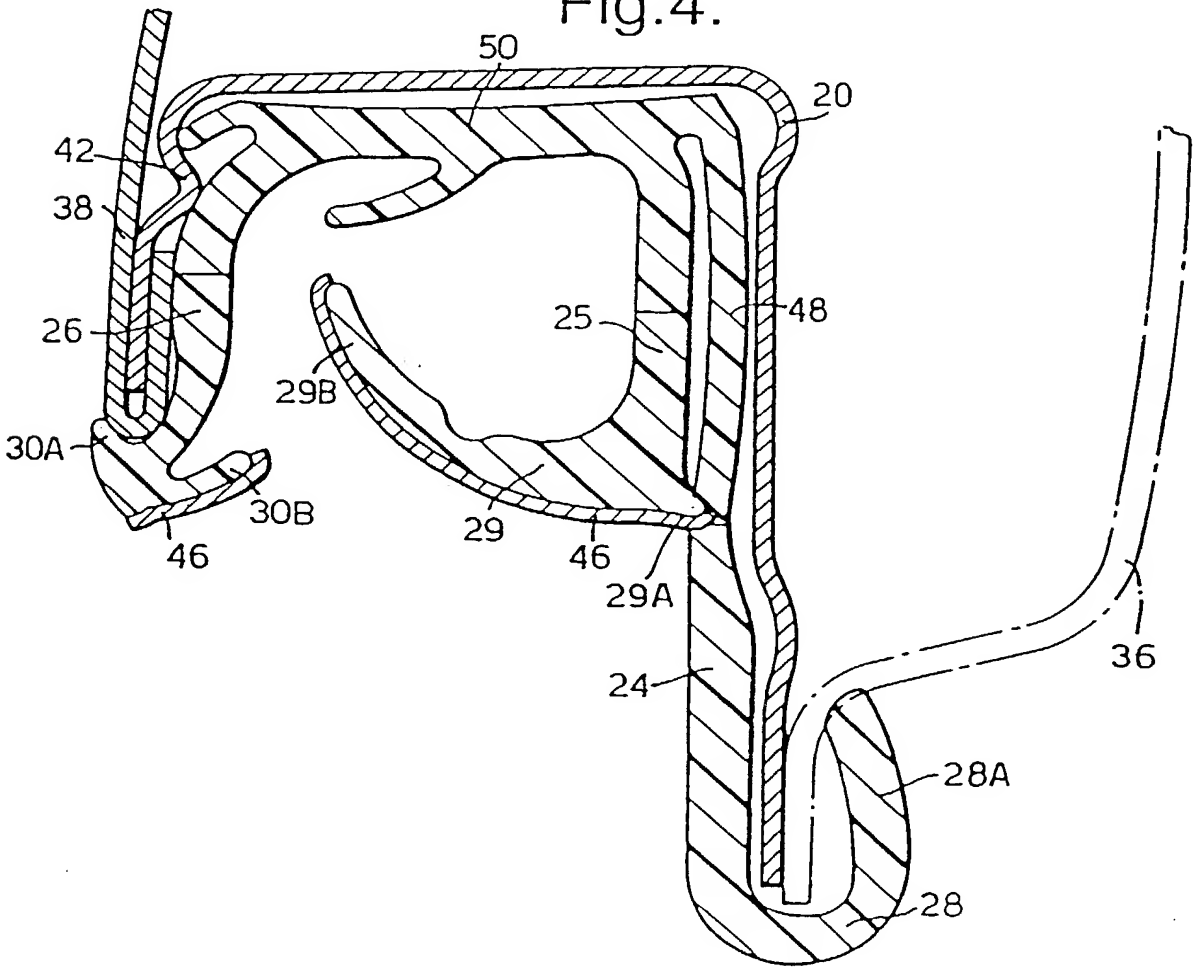
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Fig.5.

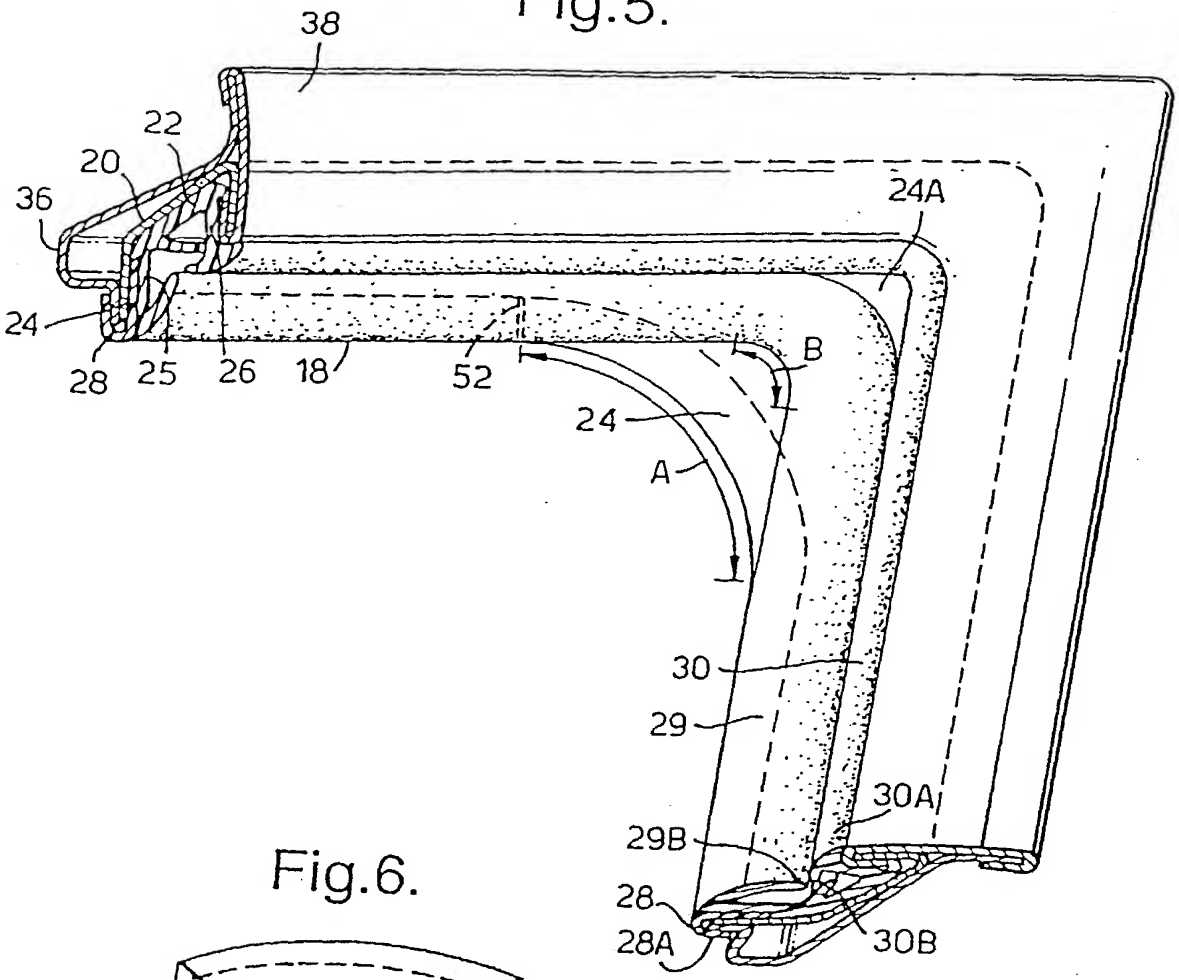
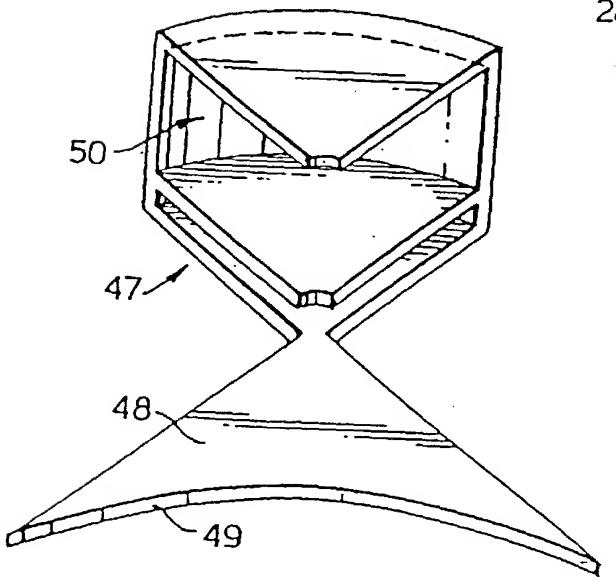


Fig.6.



PATENT
Attorney's Docket No. 215849

COMBINED DECLARATION AND POWER OF ATTORNEY

As below named inventor, I hereby declare that

This declaration is of the following type:
- ☐ original ☐ design ☐ supplemental
- ☒ national stage of PCT
- ☐ divisional ☐ continuation ☐ continuation-in-part

My residence, post office address, and citizenship are as stated below next to my name. I believe I am the original, first, and sole inventor *(if only one name is listed below)* or an original, first, and joint inventor *(if plural names are listed below)* of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Sealing and Guiding Strip for a Window

the specification of which:
- ☐ is attached hereto.
- ☐ was filed on as Application No. and was amended on _____ *(if applicable)*.
- ☐ was filed by Express Mail No. *as Application No. not known yet*, and was amended on _____ *(if applicable)*.
- ☒ was described and claimed in PCT International Application No. GB00/02975 filed on 2 August 2000 and as amended pursuant to PCT Article 19 on _____ *(if any)*.

I state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment referred to above.

I acknowledge the duty to disclose information that is material to the patentability of this application in accordance with 37 C.F.R. § 1.56.

I claim foreign priority benefits under 35 U.S.C. § 119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent, utility model, design registration, or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

PRIOR FOREIGN PATENT, UTILITY MODEL, AND DESIGN REGISTRATION APPLICATIONS						
COUNTRY	APPLICATION	DATE OF FILING (day, **month**, year)	PRIORITY CLAIMED UNDER 35 U.S.C. § 119			
UNITED KINGDOM	9920394.5	27 August 1999	X	YES		NO
				YES		NO
				YES		NO

I claim the benefit pursuant to 35 U.S.C. § 119(e) of the following United States provisional application(s):

In re Appln. of HAAS
Attorney Docket No. 215849

PRIOR U.S. PROVISIONAL APPLICATIONS BENEFIT CLAIMED UNDER 35 U.S.C. 119(e)	
APPLICATION NO.	DATE OF FILING (day,**month**,year)

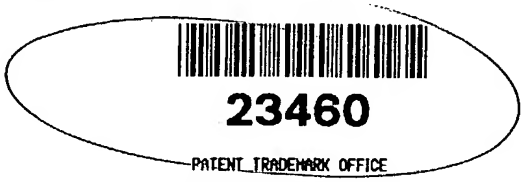
I claim the benefit pursuant to 35 U.S.C. § 120 of any United States application(s) or PCT international application(s) designating the United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose material information as defined in 37 C.F.R. § 1.56 effective between the filing date of the prior application(s) and the national or PCT international filing date of this application.

PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL PATENT APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 U.S.C. 120					
U.S. APPLICATIONS			Status *(check one)*		
APPLICATION NO.	U.S. FILING DATE		PATENTED	PENDING	ABANDONED
1. 0 /					
2. 0 /					
3. 0 /					
PCT APPLICATIONS DESIGNATING THE U.S.			Status *(check one)*		
PCT APPLICATION NO.	PCT FILING DATE (day,**month**,year)	U.S. APPLN. NOS. ASSIGNED (if any)	PATENTED	PENDING	ABANDONED
4. GB00/02975	22August 2000				
5.					
6.					

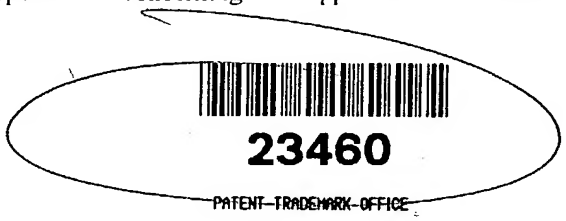
DETAILS OF FOREIGN APPLICATIONS FROM WHICH PRIORITY CLAIMED UNDER 35 U.S.C. §119 FOR ABOVE LISTED U.S./PCT APPLICATIONS				
ABOVE APPLN. NO.	COUNTRY	APPLICATION NO.	DATE OF FILING (day,**month**,year)	DATE OF ISSUE (day,**month**,year)
1. GB00/02975	UNITED KINGDOM	9920394.5	27 August 1999	
2.				
3.				
4.				
5.				
6.				

In re Appln. of
Attorney Docket No.

As a named inventor, I hereby appoint Leydig, Voit & Mayer, Ltd. to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: Customer Number 23460.



I further direct that correspondence concerning this application be directed to Leydig, Voit & Mayer, Ltd.: Customer Number 23460.



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1-0D

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